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INTRODUCTION

Congratulations! You have purchased the single line telephone with intelligence. Beyond the quality and reliability lies the heart of a computer which gives it power to remember...and more.

This equipment generates and uses radio frequency energy and if not installed and operated in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. If has been type-tested and found to comply with the limits for Class B computing devices in accordance with the specifications in Standard 15 (Subpart J) of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try the following measures:

1. Reorient the receiving antenna.
2. Relocate the telephone with respect to the receiver.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio — TV Interference Problems".
This booklet is available from the U.S. Government Printing Office. Washington, D.C. 20402, Stock Number 004-000-00345-4."

STARPLUS™ FEATURED TELEPHONE

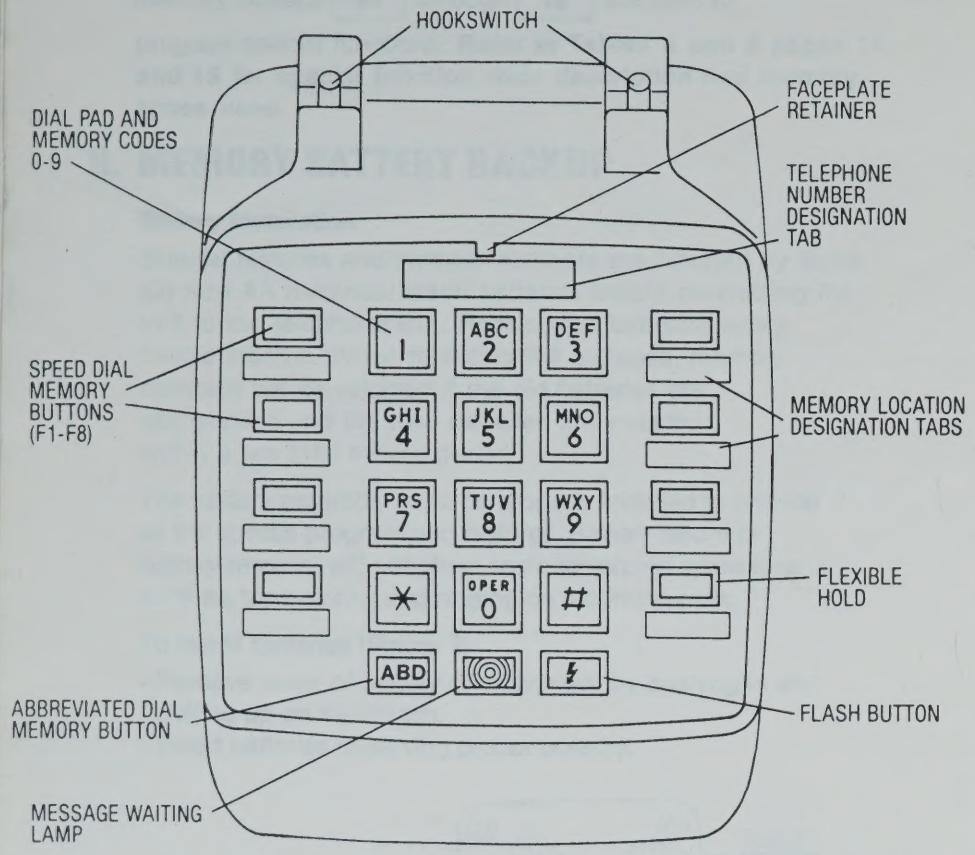


FIGURE 1

FRONT VIEW OF TELEPHONE

STARPLUS™ GENERAL DESCRIPTION

[F1] - [F8] SPEED DIAL MEMORY BUTTONS (8 MEMORIES)

1. [F1] - [F8] refers to the 8 gray, soft-key buttons situated on either side of the dial.
2. Each speed dial memory will store up to 24 digits. (See TABLE B)
3. Memories can use tone or pulse dialing or both.
4. These 8 buttons are also used to assign special functions to memory locations. Refer to "Table A" for special function code description.

[ABD] ABBREVIATED DIAL MEMORY BUTTON (10 MEMORIES)

1. The [ABD] button is used to program numbers.
2. The [ABD] button will access an abbreviated memory when followed by one of the memory codes 0 through 9.
3. Memories will store up to 24 digits using tone or pulse or both.

[ϟ] FLASH BUTTON

1. Used to regain dial tone without hanging up.
2. Used to access custom calling features, PBX, and Centrex services.

DIAL PAD

1. Used to dial a telephone number.
2. Used to access abbreviated memory locations [1] through [OPER 0]

MEMORY LOCATION DESIGNATION TABS

Use this space to record speed dial memory button names or functions (i.e., bank, forward, pick-up, branch office, etc.). The clear faceplate is easily removed by releasing the faceplate retainer tab.

TELEPHONE NUMBER DESIGNATION TAB

Use this space to record your telephone number.

MESSAGE WAITING LAMP

The message waiting lamp is used to indicate that an incoming message has been received when used behind a communications system with the message waiting feature. It also provides a visual indication of an incoming call.

BATTERY BACKUP

Battery backup will retain telephone number memories if the telephone line is disconnected.

I. BASIC OPERATION

The phone is easy to program, easy to use, and is pre-programmed for:

- Tone Dialing
- Hold Function which has been factory pre-programmed for memory location [F8]

Memory buttons [F1] through [F8] are used to program special functions. **Refer to Tables A and B pages 14 and 15 for special function code description and memory space used.**

II. MEMORY BATTERY BACKUP

Battery Installation

Special features and memory numbers are retained by three (3) size AA batteries. Insert batteries before connecting the unit to the telephone line. Replace the batteries every twelve months. When replacing the batteries, memory numbers will be retained if the old batteries are still working and the new batteries are installed within a ten (10) minute period.

The battery assembly must be properly installed to provide all the special programmed features. Battery failure or battery removal will not affect basic telephone operations, such as, tone dialing and ringing on incoming calls.

To install batteries (Figure 2):

- Remove cover of battery compartment by pushing in and pulling up on thumb tab.
- Insert batteries observing proper polarity.

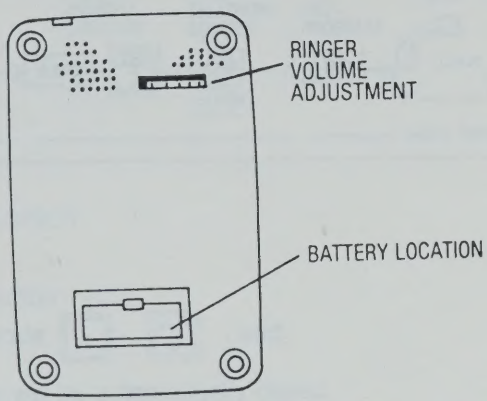


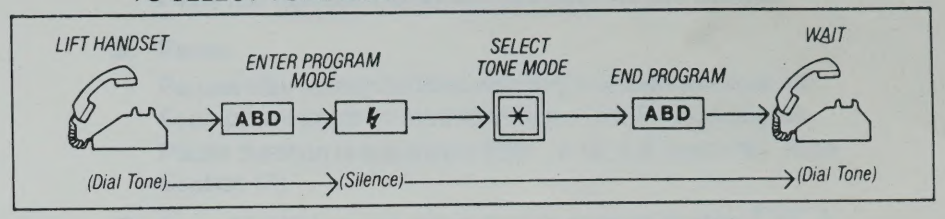
FIGURE 2
BOTTOM VIEW OF TELEPHONE

III. TONE/PULSE SELECTION

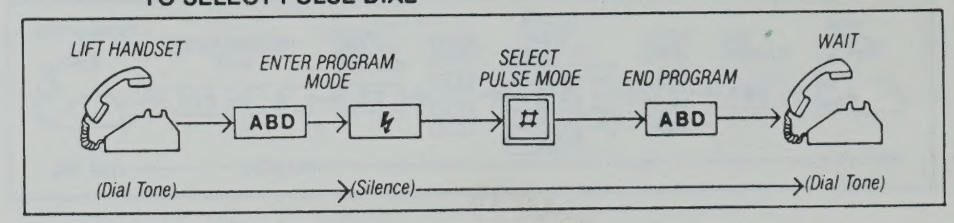
Tone dialing operation is pre-programmed. Either tone or pulse (rotary) operation may be selected as the normal dialing mode.

NOTE: 1. If dial tone is not heard at the end of the programming sequence, hang up and repeat the process.

TO SELECT TONE DIAL



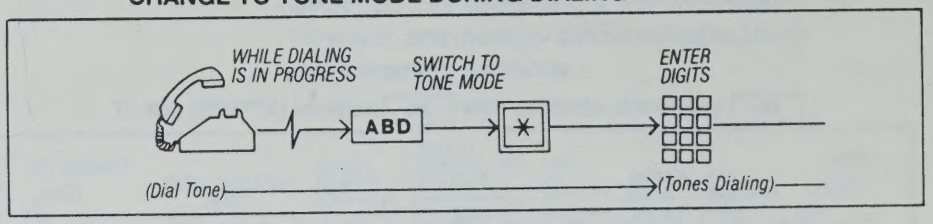
TO SELECT PULSE DIAL



TEMPORARY PULSE TO TONE DIALING

Pulse (rotary) dialing may be converted to tone dialing for calling special services such as tele-banking, etc. This does not affect standard operation.

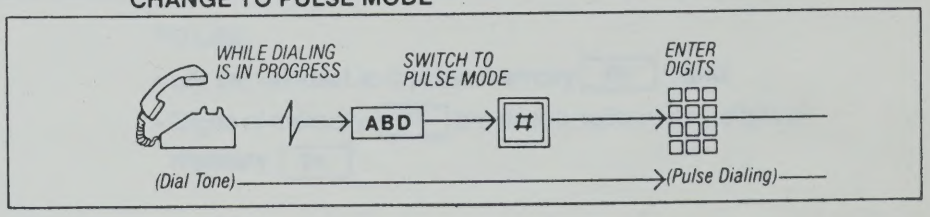
CHANGE TO TONE MODE DURING DIALING



TEMPORARY TONE TO PULSE DIALING

Tone dialing may be converted to Pulse dialing during a call.

CHANGE TO PULSE MODE



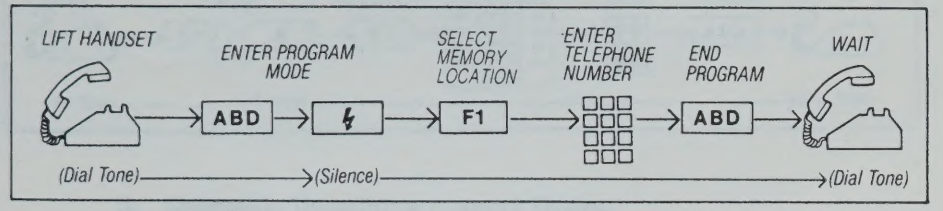
IV. MEMORY DIAL

Telephone numbers and functions can be stored in 18 separate memories. These may be linked together to provide large number storage and special function operations.

A. Speed Dialing [F1] - [F8] (Figure 1)

You may store up to eight (8) frequently used telephone numbers or PBX/centrex feature access codes, 24 digits each, for dialing at the touch of one button. The "F" buttons provide this function.

TO STORE SPEED DIALING NUMBERS:



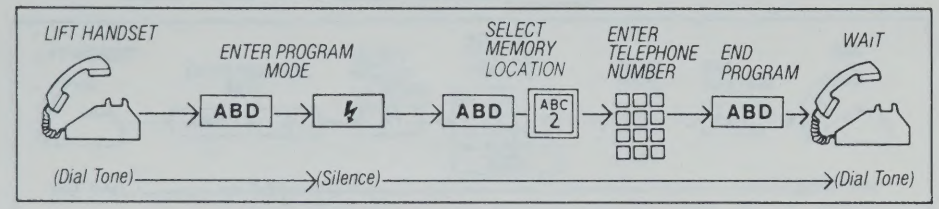
TO USE A SPEED DIALING NUMBER:

- Lift the handset;
- Press the desired Speed Dial button [F1] - [F8] ; and
- The stored number will be automatically dialed.

B. Abbreviated Dialing [ABD] [1] - [ABD] [OPER 0] (Figure 1)

Abbreviated Dialing (ABD) provides 10 dial-accessed memory locations, each up to 24 digits, for easy access using a two-button process.

TO STORE [ABD] NUMBERS:



TO USE AN [ABD] NUMBER:

- Lift the handset;
- Press the [ABD] button;
- Press the desired code [1] - [OPER 0] ; and
- The stored number will be automatically dialed.

C. Last Number Redial

The last 48 digits of any number manually or automatically dialed will be stored in Last Number Redial memory.

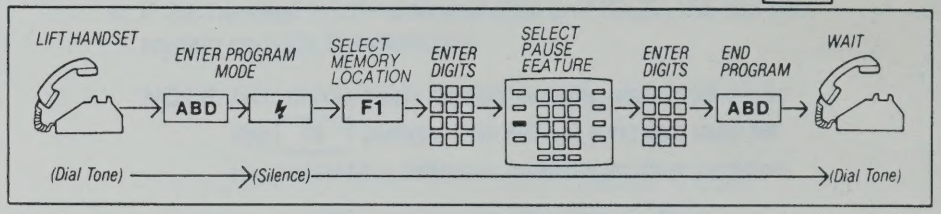
TO USE LAST NUMBER REDIAL:

- Lift the handset and press the [ABD] button twice; and
- The last number dialed will be automatically redialed.

D. Pause

Pauses may be inserted into memory numbers as required. Each pause programmed uses two of the 24 digit spaces. Pause duration is adjustable from .1 to 9.9 seconds. (See Section IX)

To store a PAUSE between dialed digits in memory location [F1] :

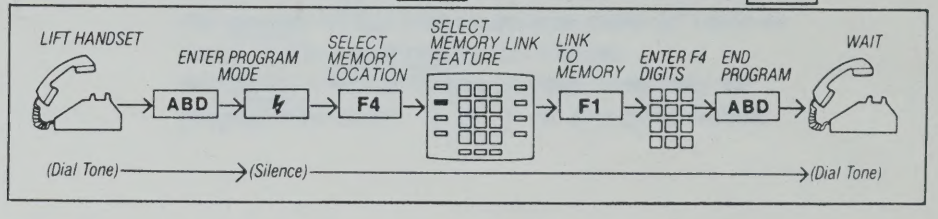


E. Memory Linking

Memory Linking will automatically link two or more memory locations together for limitless memory capacity.

CAUTION: A memory location cannot be linked to any other memory containing a link command. However, one memory can be linked to two or more memory locations.

To link (PREFIX) location [F4] with contents of memory [F1] :



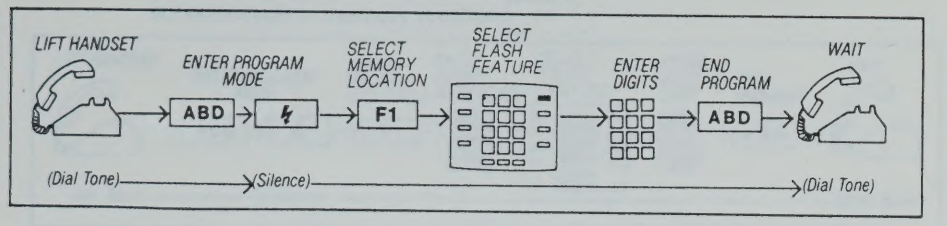
TO USE:

- Lift the handset and press memory [F4] ; and
- Digits of memory [F1] are dialed, followed by digits of memory [F4]

F. FLASH (Hookswitch)

A programmed FLASH may be stored in memory for Speed Dialing and Abbreviated Dialing.
The FLASH will take up two-digit spaces in memory.

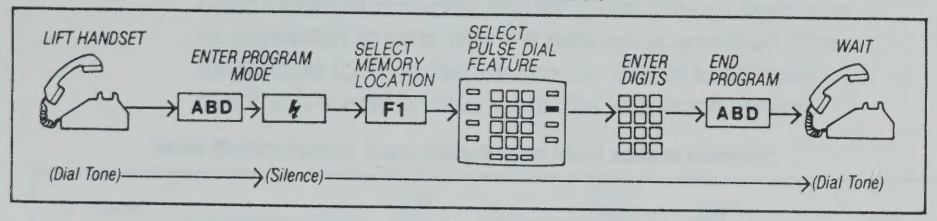
To store a (hookswitch) FLASH in memory:



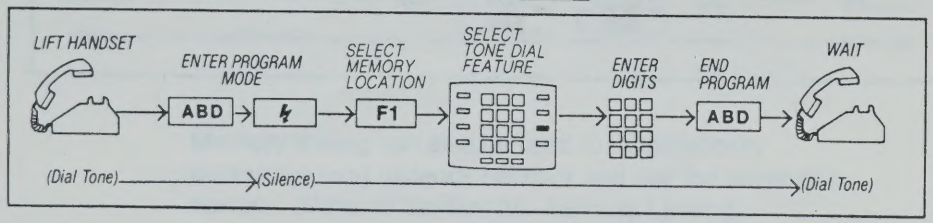
G. Selectable Tone/Pulse Memory Dialing

Numbers may be stored in Pulse (rotary) or Tone mode:

Store "PULSE DIAL" mode in memory F1 :



Store "TONE DIAL" mode in memory F1 :

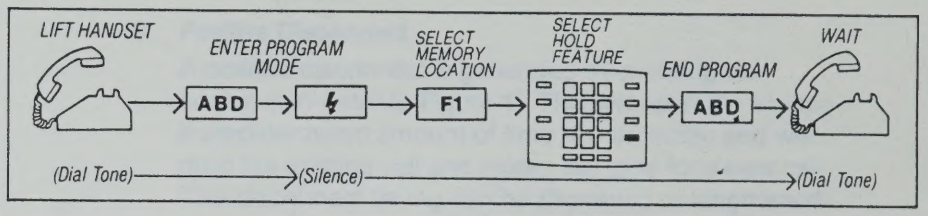


V. HOLD

1. A hold feature is provided within this featured telephone.
2. While on a call, press the F8 button to place the call on HOLD. To take the call off HOLD, simply press the F8 button again.
3. If the handset is placed on the cradle (hang-up position) while a call is on HOLD, the call will remain on HOLD for three minutes. (Refer to Section IX should you wish to select a different timing parameter other than 3 minutes.)
4. If the handset is off-hook and also on HOLD, the call will remain on HOLD indefinitely.

NOTE: HOLD has been factory pre-programmed under the F8 button. The HOLD function may be relocated to a different memory button position.

To program HOLD at a different button location, F1 :



NOTE: When the STARPLUS™ featured telephone is used in a Centrex or PABX system, it is recommended that the system HOLD feature access code be used instead of the telephone HOLD feature.
The system HOLD feature access code may be programmed under F8 or any other button.

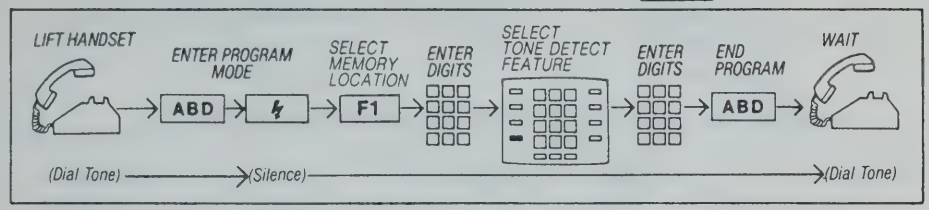
VIII. SPECIAL FEATURES

This section is intended for technical use and for very familiar users of station equipment.

A. Tone Detection

Tone Detection may be used to recognize long distance carrier access tones. This assures computer access before automatic dialing resumes.

Store TONE DETECT between digits in memory [F1]:



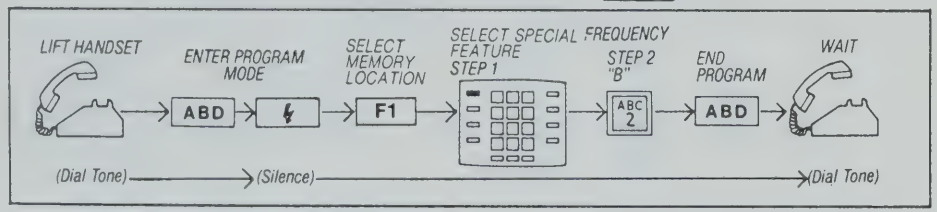
B. Special Frequencies

Special Frequencies are tone (DTMF) digits used in special applications. The Government AUTOVON and some PABX systems today have the capability to recognize these digits. Should you have the need to program special frequencies, the following table can be used for this purpose.

"F" Button	Function
1	A Digit
2	B Digit
3	C Digit
4	D Digit

To program digits A, B, C, or D a two-step sequence must be followed. The first step selects the feature "special frequencies" and the second step determines which one of four frequencies is to be selected. Digits 1, 2, 3, or 4 select A, B, C, or D frequencies respectively.

Store SPECIAL FREQUENCY "B" in memory [F1].

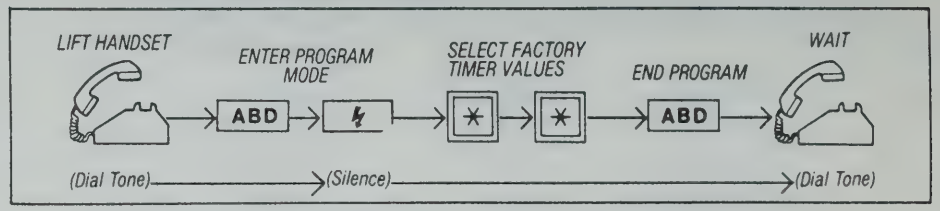


Special frequency Digit B is now stored in memory location [F1]

IX. VARIABLE FEATURE TIMERS

All timers have been reset at the factory for standard time lenghts. These are called "default times".

TO RESTORE DEFAULT TIMES:

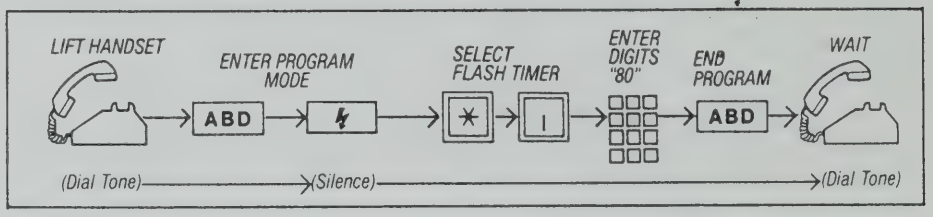


A. Flash Timer (No. 1)

This timer governs the flash button interrupt interval. The chart below shows 3 possible flash settings. In total, there are 99 possible flash settings, ranging from 0.01 second (timer code 01) through 0.99 seconds (timer code 99).

User Select	Timer Code	Actual Time
Short Flash	40	0.4 seconds
Long Flash	80	0.8 seconds
Default	60	0.6 seconds

TO PROGRAM THE FLASH TIMER FOR 0.8 SECONDS:

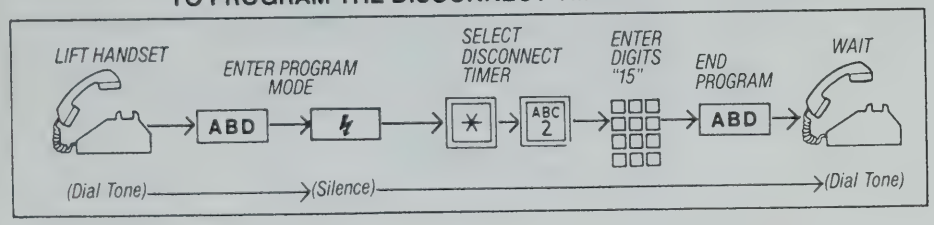


B. Disconnect Timer (No. 2)

This timer governs the interrupt interval activated by pressing the hookswitch. Some local telephone companies require a longer disconnect time. The chart below shows 3 possible disconnect settings.
In total, there are 99 possible disconnect settings, ranging from 0.1 second (timer code 01) through 9.9 seconds (timer code 99).

User Select	Timer Code	Actual Time
Short Disconnect	15	1.5 seconds
Long Disconnect	30	3.0 seconds
Default	20	2.0 seconds

TO PROGRAM THE DISCONNECT TIMER FOR 1.5 SECONDS:



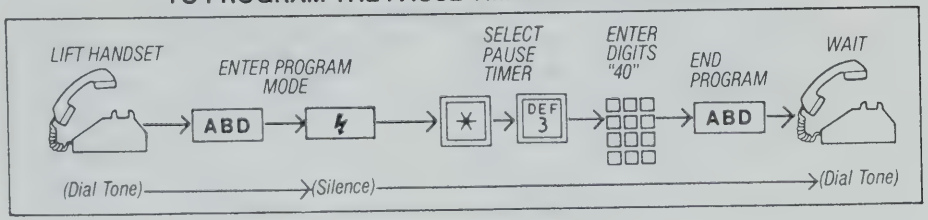
C. Pause Timer (No. 3)

This timer governs the length of each pause entered in a memory dial location. The chart below shows 3 possible pause settings.

In total, there are 99 possible pause settings, ranging from 0.1 second (timer code 01) through 9.9 seconds (timer code 99).

User Select	Timer Code	Actual Time
Short Pause	10	1 second
Long Pause	40	4 seconds
Default	20	2 seconds

TO PROGRAM THE PAUSE TIMER FOR 4 SECONDS:



D. Hold Timer (No. 4)

This timer governs the length of time a call will remain on hold before disconnecting. The chart below shows 3 possible HOLD settings.

In total, there are 99 possible HOLD settings, ranging from 6 seconds (timer code 01) through 9 minutes 54 seconds (timer code 99).

User Select	Timer Code	Actual Timer
Short Hold	20	2 minutes
Long Hold	80	8 minutes
Default	30	3 minutes

TO PROGRAM THE HOLD TIMER FOR 8 MINUTES:

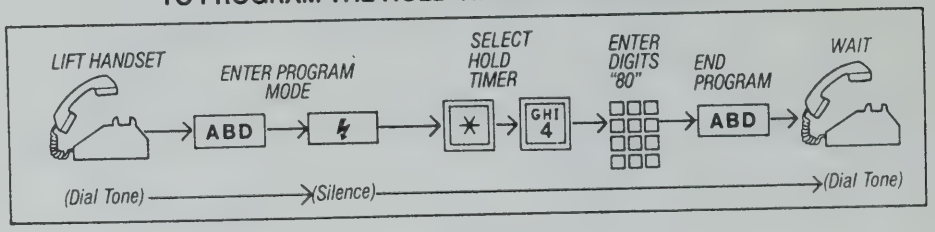
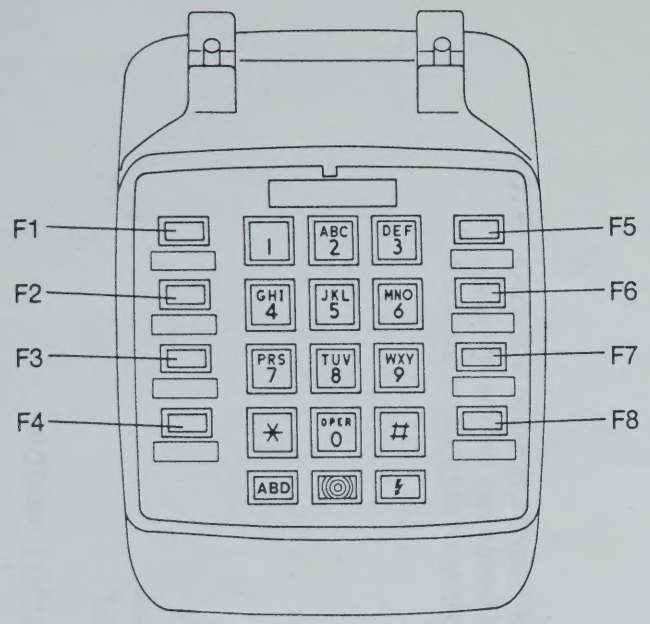


TABLE A

SPECIAL FUNCTION COMMAND CODES



Button	Function	Use
F1	Special Frequencies	Proprietary Use, Computer Access, etc.
F2	Memory Link	Links one or more memories together when memory dialing.
F3	Pause	Delay automatic dialing
F4	Tone Detection	Detect dial tone and determine when dialing can be resumed.
F5	Flash	Simulated hookswitch action for Transfer, Call Waiting, etc.
F6	Switchover to Pulse	Convert Tone to Pulse (rotary) for memory dial numbers.
F7	Switchover to Tone	Convert Pulse (rotary) to Tone for memory dial numbers.
F8	Hold	Place a call on hold.

TABLE B

The following features and functions can be programmed into any of the 18 memory locations; each memory location has a capacity of 24 digits. This table identifies the number of digits used for each feature or function.

FUNCTION	MEMORY DIGITS USED
1. Special Frequencies A, B, C, D	2
2. Memory Link	2
3. Pause	2
4. Tone Detection	2
5. Flash	2
6. Switchover to Pulse	2
7. Switchover to Tone	2
8. Hold	2
9. Keypad Digits 0-9, ✶, #	1

INSTALLATION CHECKLIST

After installation of the STARPLUS™ telephone perform the following steps to verify proper operation.

1. Verify that the STARPLUS™ telephone is properly connected and that all modular plugs are fully inserted and locked.
2. Verify that the line connected to STARPLUS™ is working properly by connecting a known working telephone to the STARPLUS™ jack.
3. Verify proper battery installation and check that batteries are touching the contacts in the battery compartment.
4. Aged batteries will result in the loss of special features or programmed number memories. Should this occur, replace batteries.

DIRECTORY

SPEED DIAL NUMBERS		ABBREVIATED DIAL NUMBERS	
F1	_____	0	_____
F2	_____	1	_____
F3	_____	2	_____
F4	_____	3	_____
F5	_____	4	_____
F6	_____	5	_____
F7	_____	6	_____
F8	_____	7	_____
		8	_____
		9	_____

NOTE: Capacity of each storage location is 24 digits. By linking two files, the capacity will be increased to 48 digits. By linking additional files, limitless total digits may be dialed.

VODAVI™

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